

SEQUENCE LISTING

<110> Bristol-Myers Squibb Company

<120> POLYNUCLEOTIDE ENCODING A NOVEL HUMAN POTASSIUM CHANNEL BETA-SUBUNIT,
K+betaM2

<130> D0076 NP

<150> US 60/263,872

<151> 2001-01-24

<150> US 60/269,794

<151> 2001-02-14

<160> 73

<170> PatentIn version 3.0

<210> 1

<211> 3468

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (515)..(1798)

<400> 1

caagcactgt gctaaagtgt ttttcatatg tcatgaaaag ttgtgccaga aaattatggt 60

ttgaacatgg gcagttttct cctaccgtca gctatatcca caagcatcac atgaagtgga 120

gatctggcag ctctgtgtat ttcagtcaag ttccacaatg aaacctgaca ataatggtaa 180

aaaccaatac ggacatctga gtaactgggg aattggcctg ccttgcatgt gagcttgatg 240

gaagattgga tatagacgag ttgattatat tttatgaagt agcagctcac taccatccac 300

catccagggt ttaaactact ttttcagcat cacttcacct gtggactott atacattttg 360

atttcttggg ggaaaaatac tgggataaga ggaggtcatt ttttaataag ttagcatcct 420

tttccctttc ttacaagttg atccaaagga taaggctgtg actccattgg attgcacctt 480

taaatcaaaa tagcagcagc agaagaaagg gaca atg gct ctg agt gga aac tgt 535

Met Ala Leu Ser Gly Asn Cys
1 5

agt cgt tat tat cct cga gaa caa ggg tcc gca gtt ccc aac tcc ttc 583

Ser Arg Tyr Tyr Pro Arg Glu Gln Gly Ser Ala Val Pro Asn Ser Phe
10 15 20

cct gag gtg gta gag ctg aat gtc ggg ggt caa gtt tat ttt act cgc 631

Pro Glu Val Val Glu Leu Asn Val Gly Gly Gln Val Tyr Phe Thr Arg
25 30 35

cat tcc aca ttg ata agc atc cct cat tcc ctc ctg tgg aaa atg ttt His Ser Thr Leu Ile Ser Ile Pro His Ser Leu Leu Trp Lys Met Phe 40 45 50 55	679
tcc cca aag aga gac acg gct aat gat cta gcc aag gac tcc aag gga Ser Pro Lys Arg Asp Thr Ala Asn Asp Leu Ala Lys Asp Ser Lys Gly 60 65 70	727
agg ttt ttc att gac aga gat gga ttc ttg ttc cgt tat att ctg gac Arg Phe Phe Ile Asp Arg Asp Gly Phe Leu Phe Arg Tyr Ile Leu Asp 75 80 85	775
tat ctc agg gac agg cag gtg gtc ctg cct gat cac ttt cca gaa aaa Tyr Leu Arg Asp Arg Gln Val Val Leu Pro Asp His Phe Pro Glu Lys 90 95 100	823
gga aga ctg aaa agg gaa gct gaa tac ttc cag ctc cca gac ttg gtc Gly Arg Leu Lys Arg Glu Ala Glu Tyr Phe Gln Leu Pro Asp Leu Val 105 110 115	871
aaa ctc ctg acc ccc gat gaa atc aag caa agc cca gat gaa ttc tgc Lys Leu Leu Thr Pro Asp Glu Ile Lys Gln Ser Pro Asp Glu Phe Cys 120 125 130 135	919
cac agt gac ttt gaa gat gcc tcc caa gga agc gac aca aga atc tgc His Ser Asp Phe Glu Asp Ala Ser Gln Gly Ser Asp Thr Arg Ile Cys 140 145 150	967
ccc cct tcc tcc ctg ctc cct gcc gac cgc aag tgg ggt ttc att act Pro Pro Ser Ser Leu Leu Pro Ala Asp Arg Lys Trp Gly Phe Ile Thr 155 160 165	1015
gtg ggt tac aga gga tcc tgc acc ttg ggc aga gag gga cag gca gat Val Gly Tyr Arg Gly Ser Cys Thr Leu Gly Arg Glu Gly Gln Ala Asp 170 175 180	1063
gcc aag ttt cgg aga gtt ccc cgg att ttg gtt tgt gga agg att tcc Ala Lys Phe Arg Arg Val Pro Arg Ile Leu Val Cys Gly Arg Ile Ser 185 190 195	1111
ttg gca aaa gaa gtc ttt gga gaa act ttg aat gaa agc aga gac cct Leu Ala Lys Glu Val Phe Gly Glu Thr Leu Asn Glu Ser Arg Asp Pro 200 205 210 215	1159
gat cga gcc cca gaa aga tac acc tcc aga ttt tat ctc aaa ttc aag Asp Arg Ala Pro Glu Arg Tyr Thr Ser Arg Phe Tyr Leu Lys Phe Lys 220 225 230	1207
cac ctg gaa agg gct ttt gat atg ttg tca gag tgt gga ttc cac atg His Leu Glu Arg Ala Phe Asp Met Leu Ser Glu Cys Gly Phe His Met 235 240 245	1255
gtg gcc tgt aac tca tcg gtg aca gca tct ttc atc aac caa tat aca Val Ala Cys Asn Ser Ser Val Thr Ala Ser Phe Ile Asn Gln Tyr Thr 250 255 260	1303
gat gac aag atc tgg tca agc tac act gaa tat gtc ttc tac cgt gag	1351

005654.04240

Asp Asp Lys Ile Trp Ser Ser Tyr Thr Glu Tyr Val Phe Tyr Arg Glu	
265 270 275	
cct tcc aga tgg tca ccc tca cac tgc gat tgc tgc tgc aag aat ggc	1399
Pro Ser Arg Trp Ser Pro Ser His Cys Asp Cys Cys Cys Lys Asn Gly	
280 285 290 295	
aaa ggt gac aaa gaa ggg gag agc ggc acg tot tgc aat gac ctc tcc	1447
Lys Gly Asp Lys Glu Gly Glu Ser Gly Thr Ser Cys Asn Asp Leu Ser	
300 305 310	
aca tct agc tgc gac agc cag tct gag gcc agc tct ccc cag gag acg	1495
Thr Ser Ser Cys Asp Ser Gln Ser Glu Ala Ser Ser Pro Gln Glu Thr	
315 320 325	
gtc atc tgt ggt ccc gtg aca cgc cag acc aac atc cag act ctg gac	1543
Val Ile Cys Gly Pro Val Thr Arg Gln Thr Asn Ile Gln Thr Leu Asp	
330 335 340	
cgt ccc atc aag aag ggc cct gtc cag ctg atc caa cag tca gag atg	1591
Arg Pro Ile Lys Lys Gly Pro Val Gln Leu Ile Gln Gln Ser Glu Met	
345 350 355	
cgg cgg aaa agc gac tta ctc cgg att ctg act tca ggc tcc agg gaa	1639
Arg Arg Lys Ser Asp Leu Leu Arg Ile Leu Thr Ser Gly Ser Arg Glu	
360 365 370 375	
tcg aac atg agc agc aaa aaa aaa gct gtt aaa gaa aag ctc tca att	1687
Ser Asn Met Ser Ser Lys Lys Lys Ala Val Lys Glu Lys Leu Ser Ile	
380 385 390	
gag gag gag ctg gag aaa tgt atc cag gat ttc cta aaa aaa aaa att	1735
Glu Glu Glu Leu Glu Lys Cys Ile Gln Asp Phe Leu Lys Lys Lys Ile	
395 400 405	
cca gat cgg ttt cct gag aga aaa cat cct tgg caa tct gaa ctt tta	1783
Pro Asp Arg Phe Pro Glu Arg Lys His Pro Trp Gln Ser Glu Leu Leu	
410 415 420	
agg aag tat cat cta taagggaggg ctgggggaggg ggaaaaaaaa aaaaaagagt	1838
Arg Lys Tyr His Leu	
425	
cattttgaaa ttaacctcat aaaaggaatt catatttttaa aggaaaaaaaa tacaactaat	1898
gatgcacatt tcttagaaca caatagtgcca ttgatatact actgcotact ttacctagtt	1958
caccttaaca tgtaaatacca cagggtagat ttctttctag atgtggaagt acaagaaaat	2018
cttttttagt tatttgtttg tttacttcgt cccatgtgct aactatctta tatataatga	2078
gagccagcta cgtaaaagta gctgagaggc cttgggagtc atttatccca aactggggtt	2138
tttctctcat ccttctacct ccttcctttg aatgagggta tggtagaaaa agatctggcc	2198
caatggcata agtttggaat ttttaatttt ggtttttcct tttgtttatg ggggtggggg	2258

4056334.012102

gaatggcaga tttatatgac ttttcaactca aatctatatg tgccagttta tattgactcc 2318
gtatgcatga gtattttgtgc aacacaagca caactaagta tgtatataca catgacgcac 2378
acgatgccag ggcctagacc tcccaagggc tgtgctcctg ctcccagcag ccctctctta 2438
gaatatttca gatggatgag cttctgactc tttcttaaaa ttcttttggg aagatttccc 2498
agcctttctt cacaacactt totaacaatca aatgactctc atcatcaaca aattgtattc 2558
cttattgtga aattaatacc ctcaaggctcc attttactgc ttgctcttt gtctgcatta 2618
agagaggatg aggagagctg gtcaaacatt ccttgtgtta aaaaaatcaa acattcatat 2678
ccacaaaatt ttctgctaaa tgactccaca ctcaagccttc tctaccctga actgaattat 2738
cacccttttc tccatgtttt cagagttctt actgcccaca gtttaatggg gtggcctttc 2798
cacataatcc acattaagtt ctgtgttcct gtgttggtgt ggaactaagg acaacacaca 2858
gtacttgaat aagggtccgg ccttttggtt gttttagaga aagttgtatt ccacacacaa 2918
cctaataatt tcttataaaa attttaaact acaaagctac atttttactt gcttgtagcc 2978
gtttttgttt gcctttggga ttccgggcttt ggctgtgccc atgctaggat ttagctgtgt 3038
catttttatg atgtctgtaa caacccaaca aggtaactga agctccagag ttaaggtttc 3098
agatttctaa atgaaactat ctttttcaat tacatcctga cttgtataga cacagccaaa 3158
aagaaactgt taatagccat ccgtccatgt aactctgtat tttaactaagg tacciaatagc 3218
tctttcatag acttgtgcta caagaagggt aaaagaccag ttttattttc agcattcctc 3278
atgcatttca gtggtaacca aaaaataatt tgtcaattaa tagttgtgtg ccaagcactc 3338
ctaatttggt ttattgctgt tgtgtgcatg tgtgtatgtg tatcacagggt aataaaggca 3398
attggatgat taaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3458
aaaaaaaaaa 3468

<210> 2
<211> 428
<212> PRT
<213> Homo sapiens

<400> 2

Met Ala Leu Ser Gly Asn Cys Ser Arg Tyr Tyr Pro Arg Glu Gln Gly
1 5 10 15

Ser Ala Val Pro Asn Ser Phe Pro Glu Val Val Glu Leu Asn Val Gly
20 25 30

1056584-012409

Gly Gln Val Tyr Phe Thr Arg His Ser Thr Leu Ile Ser Ile Pro His
35 40 45

Ser Leu Leu Trp Lys Met Phe Ser Pro Lys Arg Asp Thr Ala Asn Asp
50 55 60

Leu Ala Lys Asp Ser Lys Gly Arg Phe Phe Ile Asp Arg Asp Gly Phe
65 70 75 80

Leu Phe Arg Tyr Ile Leu Asp Tyr Leu Arg Asp Arg Gln Val Val Leu
85 90 95

Pro Asp His Phe Pro Glu Lys Gly Arg Leu Lys Arg Glu Ala Glu Tyr
100 105 110

Phe Gln Leu Pro Asp Leu Val Lys Leu Leu Thr Pro Asp Glu Ile Lys
115 120 125

Gln Ser Pro Asp Glu Phe Cys His Ser Asp Phe Glu Asp Ala Ser Gln
130 135 140

Gly Ser Asp Thr Arg Ile Cys Pro Pro Ser Ser Leu Leu Pro Ala Asp
145 150 155 160

Arg Lys Trp Gly Phe Ile Thr Val Gly Tyr Arg Gly Ser Cys Thr Leu
165 170 175

Gly Arg Glu Gly Gln Ala Asp Ala Lys Phe Arg Arg Val Pro Arg Ile
180 185 190

Leu Val Cys Gly Arg Ile Ser Leu Ala Lys Glu Val Phe Gly Glu Thr
195 200 205

Leu Asn Glu Ser Arg Asp Pro Asp Arg Ala Pro Glu Arg Tyr Thr Ser
210 215 220

Arg Phe Tyr Leu Lys Phe Lys His Leu Glu Arg Ala Phe Asp Met Leu
225 230 235 240

Ser Glu Cys Gly Phe His Met Val Ala Cys Asn Ser Ser Val Thr Ala
245 250 255

4056664 64466

Ser Phe Ile Asn Gln Tyr Thr Asp Asp Lys Ile Trp Ser Ser Tyr Thr
260 265 270

Glu Tyr Val Phe Tyr Arg Glu Pro Ser Arg Trp Ser Pro Ser His Cys
275 280 285

Asp Cys Cys Cys Lys Asn Gly Lys Gly Asp Lys Glu Gly Glu Ser Gly
290 295 300

Thr Ser Cys Asn Asp Leu Ser Thr Ser Ser Cys Asp Ser Gln Ser Glu
305 310 315 320

Ala Ser Ser Pro Gln Glu Thr Val Ile Cys Gly Pro Val Thr Arg Gln
325 330 335

Thr Asn Ile Gln Thr Leu Asp Arg Pro Ile Lys Lys Gly Pro Val Gln
340 345 350

Leu Ile Gln Gln Ser Glu Met Arg Arg Lys Ser Asp Leu Leu Arg Ile
355 360 365

Leu Thr Ser Gly Ser Arg Glu Ser Asn Met Ser Ser Lys Lys Lys Ala
370 375 380

Val Lys Glu Lys Leu Ser Ile Glu Glu Glu Leu Glu Lys Cys Ile Gln
385 390 395 400

Asp Phe Leu Lys Lys Lys Ile Pro Asp Arg Phe Pro Glu Arg Lys His
405 410 415

Pro Trp Gln Ser Glu Leu Leu Arg Lys Tyr His Leu
420 425

<210> 3

<211> 769

<212> DNA

<213> Homo sapiens

<400> 3

aggatcatttt ttaataagtt agcatccttt tcccttttctt acaagttgat ccaaaggata 60

aggctgtgac tccattggat tgcaccttta aatcaaaaata gcagcagcag aagaaaggga 120

caatggctct gaggtgaaac tgtagtcgtt attatcctcg agaacaaggg tccgcagttc 180

ccaactcctt cctgaggtg gtagagctga atgtcggggg tcaagtttat ttactcgcc 240

Thr Lys Trp Asn Lys His Met Met Asp Thr Arg Asp Cys Gln Val Ser
165 170 175

Phe Thr Phe Gly Pro Cys Asp Tyr His Gln Glu Val Ser Leu Arg Val
180 185 190

His Leu Met Glu Tyr Ile Thr Lys Gln Gly Phe Thr Ile Arg Asn Thr
195 200 205

Arg Val His His Met Ser Glu Arg Ala Asn Glu Asn Thr Val Glu His
210 215 220

Asn Trp Thr Phe Cys Arg Leu Ala Arg Lys Thr Asp Asp
225 230 235

<210> 5

<211> 228

<212> PRT

<213> Drosophila melanogaster

<400> 5

Met Pro Glu Ile Ile Glu Leu Asn Val Gly Gly Val Ser Tyr Thr Thr
1 5 10 15

Thr Leu Ala Thr Leu Leu Gln Asp Lys Ser Thr Leu Leu Ala Glu Leu
20 25 30

Phe Gly Glu Gly Arg Asp Ser Leu Ala Lys Asp Ser Lys Gly Arg Tyr
35 40 45

Phe Leu Asp Arg Asp Gly Val Leu Phe Arg Tyr Ile Leu Asp Phe Leu
50 55 60

Arg Asp Lys Ala Leu His Leu Pro Glu Gly Phe Arg Glu Arg Gln Arg
65 70 75 80

Leu Leu Arg Glu Ala Glu His Phe Lys Leu Thr Ala Met Leu Glu Cys
85 90 95

Ile Arg Ser Glu Arg Asp Ala Arg Pro Pro Gly Cys Ile Thr Ile Gly
100 105 110

Tyr Arg Gly Ser Phe Gln Phe Gly Lys Asp Gly Leu Ala Asp Val Lys
115 120 125

Phe Arg Lys Leu Ser Arg Ile Leu Val Cys Gly Arg Val Ala Gln Cys
130 135 140

Arg Glu Val Phe Gly Asp Thr Leu Asn Glu Ser Arg Asp Pro Asp His
145 150 155 160

Gly Gly Thr Asp Arg Tyr Thr Ser Arg Phe Phe Leu Lys His Cys Tyr
165 170 175

Ile Glu Gln Ala Phe Asp Asn Leu His Asp His Gly Tyr Arg Met Ala
180 185 190

Gly Ser Cys Gly Ser Gly Thr Ala Gly Ser Ala Ala Glu Pro Lys Pro
195 200 205

Gly Val Asp Thr Glu Glu Asn Arg Trp Asn His Tyr Asn Glu Phe Val
210 215 220

Phe Ile Arg Asp
225

<210> 6

<211> 190

<212> PRT

<213> Caenorhabditis elegans

<400> 6

Met Thr Ser Val Glu Asp Val Ile Thr Leu Asn Val Gly Gly Thr Met
1 5 10 15

Tyr Thr Thr Thr Arg Ser Thr Leu Ser Lys Glu Thr Asp Thr Leu Leu
20 25 30

Ala Asn Ile Ala Ser Gly Ser Leu Ser Glu Asp Glu Gln Ala Asn Val
35 40 45

Val Thr Leu Pro Asp Gly Thr Leu Phe Val Asp Arg Asp Gly Pro Leu
50 55 60

Phe Ala Tyr Val Leu His Phe Leu Arg Thr Asp Lys Leu Ser Leu Pro
65 70 75 80

Glu Gln Phe Arg Glu Val Ala Arg Leu Lys Asp Glu Ala Asp Phe Tyr
85 90 95

Arg Leu Glu Arg Phe Ser Thr Leu Leu Ser Asn Ala Ser Ser Ile Ser
100 105 110

Pro Arg Pro Arg Thr Ala Asn Gly Tyr Asn Thr Ile Thr Ser Gly Ala
115 120 125

Glu Thr Gly Gly Tyr Ile Thr Leu Gly Tyr Arg Gly Thr Phe Ala Phe
130 135 140

Gly Arg Asp Gly Gln Ala Asp Val Lys Phe Arg Lys Leu His Arg Ile
145 150 155 160

Leu Val Cys Gly Arg Ala Thr Leu Cys Arg Glu Val Phe Ala Asp Thr
165 170 175

Leu Asn Glu Ser Arg Asp Pro Gly Gly Pro Asp Asp Gly Glu
180 185 190

<210> 7

<211> 256

<212> PRT

<213> Homo sapiens

<220>
 <221> variant
 <222> (15)..(15)
 <223> wherein "Xaa" is unknown.

<400> 7

Met	Ser	Arg	Pro	Leu	Ile	Thr	Arg	Ser	Pro	Ala	Ser	Pro	Leu	Xaa	Asn	
1				5				10						15		
Gln	Gly	Ile	Pro	Thr	Pro	Ala	Gln	Leu	Thr	Lys	Ser	Asn	Ala	Pro	Val	
			20					25						30		
His	Ile	Asp	Val	Gly	Gly	His	Met	Tyr	Thr	Ser	Ser	Leu	Ala	Thr	Leu	
		35					40					45				
Thr	Lys	Tyr	Pro	Glu	Ser	Arg	Ile	Gly	Arg	Leu	Phe	Asp	Gly	Thr	Glu	
	50					55					60					
Pro	Ile	Val	Leu	Asp	Ser	Leu	Lys	Gln	His	Tyr	Phe	Ile	Asp	Arg	Asp	
65					70					75					80	
Gly	Gln	Met	Phe	Arg	Tyr	Ile	Leu	Asn	Phe	Leu	Arg	Thr	Ser	Lys	Leu	
				85					90					95		
Leu	Ile	Pro	Asp	Asp	Phe	Lys	Asp	Tyr	Thr	Leu	Leu	Tyr	Glu	Glu	Ala	
			100					105					110			
Lys	Tyr	Phe	Gln	Leu	Gln	Pro	Met	Leu	Leu	Glu	Met	Glu	Arg	Trp	Lys	
		115					120					125				
Gln	Asp	Arg	Glu	Thr	Gly	Arg	Phe	Ser	Arg	Pro	Cys	Glu	Cys	Leu	Val	
	130					135					140					
Val	Arg	Val	Ala	Pro	Asp	Leu	Gly	Glu	Arg	Ile	Thr	Leu	Ser	Gly	Asp	
145					150					155					160	
Lys	Ser	Leu	Ile	Glu	Glu	Val	Phe	Pro	Glu	Ile	Gly	Asp	Val	Met	Cys	
				165					170					175		
Asn	Ser	Val	Asn	Ala	Gly	Trp	Asn	His	Asp	Ser	Thr	His	Val	Ile	Arg	
			180					185					190			
Phe	Pro	Leu	Asn	Gly	Tyr	Cys	His	Leu	Asn	Ser	Val	Gln	Val	Leu	Glu	
		195					200					205				
Arg	Leu	Gln	Gln	Arg	Gly	Phe	Glu	Ile	Val	Gly	Ser	Cys	Gly	Gly	Gly	
	210					215					220					
Val	Asp	Ser	Ser	Gln	Phe	Ser	Glu	Tyr	Val	Leu	Arg	Arg	Glu	Leu	Arg	
225					230					235					240	
Arg	Thr	Pro	Arg	Val	Pro	Ser	Val	Ile	Arg	Ile	Lys	Gln	Glu	Pro	Leu	
				245					250					255		

<210> 8
 <211> 80
 <212> DNA
 <213> Artificial

 <220>
 <223> Synthetic Oligonucleotide Modified To Contain Biotin at the 5 Prime End

 <400> 8
 tgggagctgg aagtattcag cttccctttt cagtcttcct ttttctggaa agtgatcagg 60
 caggaccacc tgcctgtccc 80

 <210> 9
 <211> 20
 <212> DNA
 <213> Homo sapiens

 <400> 9
 tactcgccat tccacattga 20

 <210> 10
 <211> 20
 <212> DNA
 <213> Homo sapiens

 <400> 10
 attcatctgg gctttgcttg 20

 <210> 11
 <211> 14
 <212> PRT
 <213> Homo sapiens

 <400> 11
 Met Ala Leu Ser Gly Asn Cys Ser Arg Tyr Tyr Pro Arg Glu
 1 5 10

 <210> 12
 <211> 14
 <212> PRT
 <213> Homo sapiens

 <400> 12
 Phe Gly Glu Thr Leu Asn Glu Ser Arg Asp Pro Asp Arg Ala
 1 5 10

 <210> 13
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 13

His Met Val Ala Cys Asn Ser Ser Val Thr Ala Ser Phe Ile
1 5 10

<210> 14

<211> 14

<212> PRT

<213> Homo sapiens

<400> 14

Gly Ser Arg Glu Ser Asn Met Ser Ser Lys Lys Lys Ala Val
1 5 10

<210> 15

<211> 13

<212> PRT

<213> Homo sapiens

<400> 15

Leu Trp Lys Met Phe Ser Pro Lys Arg Asp Thr Ala Asn
1 5 10

<210> 16

<211> 13

<212> PRT

<213> Homo sapiens

<400> 16

Ala Pro Glu Arg Tyr Thr Ser Arg Phe Tyr Leu Lys Phe
1 5 10

<210> 17

<211> 13

<212> PRT

<213> Homo sapiens

<400> 17

Arg Glu Ser Asn Met Ser Ser Lys Lys Lys Ala Val Lys
1 5 10

<210> 18

<211> 13

<212> PRT

<213> Homo sapiens

<400> 18

Glu Ser Asn Met Ser Ser Lys Lys Lys Ala Val Lys Glu
1 5 10

<210> 19

<211> 18
 <212> PRT
 <213> Homo sapiens

<400> 19

Phe Pro Glu Lys Gly Arg Leu Lys Arg Glu Ala Glu Tyr Phe Gln Leu
 1 5 10 15

Pro Asp

<210> 20
 <211> 103
 <212> PRT
 <213> Homo sapiens

<400> 20

Glu Val Val Glu Leu Asn Val Gly Gly Gln Val Tyr Phe Thr Arg His
 1 5 10 15

Ser Thr Leu Ile Ser Ile Pro His Ser Leu Leu Trp Lys Met Phe Ser
 20 25 30

Pro Lys Arg Asp Thr Ala Asn Asp Leu Ala Lys Asp Ser Lys Gly Arg
 35 40 45

Phe Phe Ile Asp Arg Asp Gly Phe Leu Phe Arg Tyr Ile Leu Asp Tyr
 50 55 60

Leu Arg Asp Arg Gln Val Val Leu Pro Asp His Phe Pro Glu Lys Gly
 65 70 75 80

Arg Leu Lys Arg Glu Ala Glu Tyr Phe Gln Leu Pro Asp Leu Val Lys
 85 90 95

Leu Leu Thr Pro Asp Glu Ile
 100

<210> 21
 <211> 21
 <212> PRT
 <213> Homo sapiens

<400> 21

Cys Gly Phe His Met Val Ala Cys Asn Ser Ser Val Thr Ala Ser Phe
 1 5 10 15

Ile Asn Gln Tyr Thr
 20

<210> 22
 <211> 17
 <212> DNA
 <213> Homo sapiens

<400> 22
tgggattcgg gctttgg 17

<210> 23
<211> 26
<212> DNA
<213> Homo sapiens

<400> 23
tggtgggttg ttacagacat cataaa 26

<210> 24
<211> 29
<212> DNA
<213> Homo sapiens

<400> 24
tgacacagct aaatcctagc atgggcaca 29

<210> 25
<211> 733
<212> DNA
<213> homo sapiens

<400> 25
gggatccgga gcccaaattct tctgacaaaa ctcacacatg cccaccgtgc ccagcacctg 60
aattogaggg tgcaccgtca gtcttcctct tcccccaaa acccaaggac accctcatga 120
tctcccgga ccttgaggtc acatgcgttg tggtggacgt aagccacgaa gaccctgagg 180
tcaagttcaa ctggtacgtg gacggcgttg aggtgcataa tgccaagaca aagccgcggg 240
aggagcagta caacagcacg taccgtgttg tcagcgtcct caccgtcctg caccaggact 300
ggctgaatgg caaggagtac aagtgcagg tctccaacaa agccctccca acccccatcg 360
agaaaaccat ctccaaagcc aaagggcagc cccgagaacc acaggtgtac accctgcccc 420
catcccgga tgagctgacc aagaaccagg tcagcctgac ctgcctggtc aaaggcttct 480
atccaagcga catcgccgtg gagtgggaga gcaatgggca gccggagaac aactacaaga 540
ccacgcctcc cgtgctggac tccgacggct ccttcttct ctacagcaag ctcaccgtgg 600
acaagagcag gtggcagcag gggaacgtct tctcatgctc cgtgatgcat gaggctctgc 660
acaaccacta cacgcagaag agcctctccc tgtctccggg taaatgagtg cgacggccgc 720
gactctagag gat 733

<210> 26

<211> 8
 <212> PRT
 <213> bacteriophage T7

<400> 26

Asp Tyr Lys Asp Asp Asp Asp Lys
 1 5

<210> 27
 <211> 39
 <212> DNA
 <213> Homo sapiens

<400> 27
 gcagcagcgg ccgccctgag gtggtagagc tgaatgtcg 39

<210> 28
 <211> 36
 <212> DNA
 <213> Homo sapiens

<400> 28
 gcagcagtcg actagatgat acttccttaa aagttc 36

<210> 29
 <211> 39
 <212> DNA
 <213> Homo sapiens

<400> 29
 gcagcagcgg ccgcatggct ctgagtggaa actgtagtc 39

<210> 30
 <211> 37
 <212> DNA
 <213> Homo sapiens

<400> 30
 gcagcagtcg actgtatatt ggttgatgaa agatgct 37

<210> 31
 <211> 23
 <212> DNA
 <213> Homo sapiens

<400> 31
 caggtgcagc tgggtgcagtc tgg 23

<210> 32
 <211> 23
 <212> DNA

<213> Homo sapiens

<400> 32
caggtcaact taaggagtc tgg

23

<210> 33
<211> 23
<212> DNA
<213> Homo sapiens

<400> 33
gaggtgcagc tggaggagtc tgg

23

<210> 34
<211> 23
<212> DNA
<213> Homo sapiens

<400> 34
caggtgcagc tgcaggagtc ggg

23

<210> 35
<211> 23
<212> DNA
<213> Homo sapiens

<400> 35
gaggtgcagc tggtagagtc tgc

23

<210> 36
<211> 23
<212> DNA
<213> Homo sapiens

<400> 36
caggtacagc tgcagcagtc agg

23

<210> 37
<211> 24
<212> DNA
<213> Homo sapiens

<400> 37
tgaggagacg gtgaccaggg tgcc

24

<210> 38
<211> 24
<212> DNA
<213> Homo sapiens

<400> 38

tgaagagacg gtgaccattg tccc

24

<210> 39

<211> 24

<212> DNA

<213> Homo sapiens

<400> 39

tgaggagacg gtgaccaggg ttcc

24

<210> 40

<211> 24

<212> DNA

<213> Homo sapiens

<400> 40

tgaggagacg gtgaccgtgg tccc

24

<210> 41

<211> 23

<212> DNA

<213> Homo sapiens

<400> 41

gacatccaga tgaccagtc tcc

23

<210> 42

<211> 23

<212> DNA

<213> Homo sapiens

<400> 42

gatgttgtga tgactcagtc tcc

23

<210> 43

<211> 23

<212> DNA

<213> Homo sapiens

<400> 43

gatattgtga tgactcagtc tcc

23

<210> 44

<211> 23

<212> DNA

<213> Homo sapiens

<400> 44

gaaattgtgt tgacgcagtc tcc

23

<210> 45
<211> 23
<212> DNA
<213> Homo sapiens

<400> 45
gacatcgtga tgacccagtc tcc 23

<210> 46
<211> 23
<212> DNA
<213> Homo sapiens

<400> 46
gaaacgacac tcacgcagtc tcc 23

<210> 47
<211> 23
<212> DNA
<213> Homo sapiens

<400> 47
gaaattgtgc tgactcagtc tcc 23

<210> 48
<211> 23
<212> DNA
<213> Homo sapiens

<400> 48
cagtctgtgt tgacgcagcc gcc 23

<210> 49
<211> 23
<212> DNA
<213> Homo sapiens

<400> 49
cagtctgccc tgactcagcc tgc 23

<210> 50
<211> 23
<212> DNA
<213> Homo sapiens

<400> 50
tcctatgtgc tgactcagcc acc 23

<210> 51
<211> 23
<212> DNA

<213> Homo sapiens

<400> 51

tcttctgagc tgactcagga ccc

23

<210> 52

<211> 23

<212> DNA

<213> Homo sapiens

<400> 52

cacgttatac tgactcaacc gcc

23

<210> 53

<211> 23

<212> DNA

<213> Homo sapiens

<400> 53

caggctgtgc tcaactcagcc gtc

23

<210> 54

<211> 23

<212> DNA

<213> Homo sapiens

<400> 54

aattttatgc tgactcagcc cca

23

<210> 55

<211> 24

<212> DNA

<213> Homo sapiens

<400> 55

acgtttgatt tccaccttgg tccc

24

<210> 56

<211> 24

<212> DNA

<213> Homo sapiens

<400> 56

acgtttgatc tccagcttgg tccc

24

<210> 57

<211> 24

<212> DNA

<213> Homo sapiens

<400> 57

0056504.044

acgtttgata tccactttgg tccc

24

<210> 58
<211> 24
<212> DNA
<213> Homo sapiens

<400> 58
acgtttgatc tccaccttgg tccc

24

<210> 59
<211> 24
<212> DNA
<213> Homo sapiens

<400> 59
acgtttaatc tccagtcgtg tccc

24

<210> 60
<211> 23
<212> DNA
<213> Homo sapiens

<400> 60
cagtctgtgt tgacgcagcc gcc

23

<210> 61
<211> 23
<212> DNA
<213> Homo sapiens

<400> 61
cagtctgccc tgactcagcc tgc

23

<210> 62
<211> 23
<212> DNA
<213> Homo sapiens

<400> 62
tcctatgtgc tgactcagcc acc

23

<210> 63
<211> 23
<212> DNA
<213> Homo sapiens

<400> 63
tcttctgagc tgactcagga ccc

23

207270" 4885007

<210> 64
<211> 23
<212> DNA
<213> Homo sapiens

<400> 64
cacgttatac tgactcaacc gcc 23

<210> 65
<211> 23
<212> DNA
<213> Homo sapiens

<400> 65
caggctgtgc tcactcagcc gtc 23

<210> 66
<211> 23
<212> DNA
<213> Homo sapiens

<400> 66
aatatttatgc tgactcagcc cca 23

<210> 67
<211> 301
<212> PRT
<213> Drosophila melanogaster

<400> 67

Met Ser Glu Ser Met Ser Gly Asp His Lys Ile Leu Leu Lys Gly His
1 5 10 15

Ser Ser Gln Tyr Leu Lys Leu Asn Val Gly Gly His Leu Tyr Tyr Thr
20 25 30

Thr Ile Gly Thr Leu Thr Lys Asn Asn Asp Thr Met Leu Ser Ala Met
35 40 45

Phe Ser Gly Arg Met Glu Val Leu Thr Asp Ser Glu Gly Trp Ile Leu
50 55 60

Ile Asp Arg Cys Gly Asn His Phe Gly Ile Ile Leu Asn Tyr Leu Arg
65 70 75 80

Asp Gly Thr Val Pro Leu Pro Glu Thr Asn Lys Glu Ile Ala Glu Leu
85 90 95

Leu Ala Glu Ala Lys Tyr Tyr Cys Ile Thr Glu Leu Ala Ile Ser Cys
100 105 110

Glu Arg Ala Leu Tyr Ala His Gln Glu Pro Lys Pro Ile Cys Arg Ile
115 120 125

204270 4335007

Pro	Leu	Ile	Thr	Ser	Gln	Lys	Glu	Glu	Gln	Leu	Leu	Leu	Ser	Val	Ser		
130						135					140						
Leu	Lys	Pro	Ala	Val	Ile	Leu	Val	Val	Gln	Arg	Gln	Asn	Asn	Lys	Tyr		
145					150					155					160		
Ser	Tyr	Thr	Ser	Thr	Ser	Asp	Asp	Asn	Leu	Leu	Lys	Asn	Ile	Glu	Leu		
				165					170					175			
Phe	Asp	Lys	Leu	Ser	Leu	Arg	Phe	Asn	Glu	Arg	Ile	Leu	Phe	Ile	Lys		
			180					185					190				
Asp	Val	Ile	Gly	Pro	Ser	Glu	Ile	Cys	Cys	Trp	Ser	Phe	Tyr	Gly	His		
		195					200					205					
Gly	Lys	Lys	Val	Ala	Glu	Val	Cys	Cys	Thr	Ser	Ile	Val	Tyr	Ala	Thr		
	210					215					220						
Asp	Arg	Lys	His	Thr	Lys	Val	Glu	Phe	Pro	Glu	Ala	Arg	Ile	Tyr	Glu		
225					230					235					240		
Glu	Thr	Leu	Gln	Val	Leu	Leu	Tyr	Glu	Asn	Arg	Asn	Ala	Pro	Asp	Gln		
			245					250						255			
Glu	Leu	Met	Gln	Ala	Thr	Ser	Ser	Ala	Arg	Val	Gly	Ser	Ala	Ser	Gly		
		260						265					270				
Thr	Ser	Ile	Asn	Gln	Tyr	Thr	Ser	Asp	Glu	Glu	Glu	Glu	Arg	Thr	Gly		
	275					280						285					
Leu	Ala	Arg	Leu	Arg	Ser	Asn	Lys	Arg	Asn	Asn	Pro	Ser					
	290					295					300						

<210> 68
 <211> 20
 <212> DNA
 <213> Drosophila melanogaster

<400> 68
 atgaggcttg gatcagcttt 20

<210> 69
 <211> 20
 <212> DNA
 <213> Drosophila melanogaster

<400> 69
 cctgaagcct gacattccat 20

<210> 70
 <211> 21
 <212> DNA
 <213> Drosophila melanogaster

